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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Timo Viero

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EXAMINER

MILLER, BRANDON J

ART UNIT

PAPER NUMBER

2617

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,481	Applicant(s) VIERO ET AL.	
	Examiner BRANDON J. MILLER	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-18,20-35 and 38-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-18,20-34 and 38-64 is/are allowed.
- 6) ☒ Claim(s) 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Disposition of Claims

- I. Claims 1-2, 4-18, 20-35, and 38-64 are pending in the application.

Allowable Subject Matter

- II. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites a method with steps as defined in the specification (pages 3-16) including first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; second determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a combined tree structure comprising at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the circuit arrangement comprises one or more nodes of different branches is-connected in a predetermined manner.

The prior art teaches a method for determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes.

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However, applicant's independent claim 1 comprises a method with a particular combination of steps, as recited above, which allows for first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a combined tree structure comprising at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the circuit arrangement comprises one or more nodes of different branches is-connected in a predetermined manner.

This is neither taught nor suggested by the prior art.

Claims 5-17 are allowable based on their dependence on independent claim 1.

Claim 2 recites a method with steps as defined in the specification (pages 3-16) including first determining for different circuit arrangement nodes at least one operation to execute and selecting a modification level from the circuit arrangement; merging together nodes in the selected modification level and deleting irrelevant nodes and links between the nodes and/or adding new links; second determining one or more division criteria for dividing the signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the determined operations in the circuit arrangement nodes according to the signal classes.

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The prior art teaches a method for determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes.

However, applicant's independent claim 2 comprises a method with a particular combination of steps, as recited above, which allows for first determining for different circuit arrangement nodes at least one operation to execute and selecting a modification level from the circuit arrangement; merging together nodes in the selected modification level and deleting irrelevant nodes and links between the nodes and/or adding new links; and executing the determined operations in the circuit arrangement nodes according to the signal classes.

This is neither taught nor suggested by the prior art.

Claim 4 recites a method with steps as defined in the specification (pages 3-16) including first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; second determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

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The prior art teaches a method for determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes.

However, applicant's independent claim 4 comprises a method with a particular combination of steps, as recited above, which allows for first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

This is neither taught nor suggested by the prior art.

Claims 38-50 are allowable based on their dependence of independent claim 4.

Claim 18 recites an apparatus with elements as defined in the specification (pages 3-16) including nodes arranged to perform at least one operation; a divider configured to divide one or more signals or signal components according to one or more predetermined division criteria into signal classes; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a combined tree structure comprising, at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the

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combined tree structure comprises one or more nodes of different branches connected in a predetermined manner.

The prior art teaches an apparatus comprising a divider for dividing one or more signals or signal components according to one or more predetermined division criteria into signal classes.

However, applicant's independent claim 18 comprises an apparatus with a particular structure, as recited above, which includes nodes arranged to perform at least one operation; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a combined tree structure comprising, at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the combined tree structure comprises one or more nodes of different branches connected in a predetermined manner.

This is neither taught nor suggested by the prior art.

Claims 21-34 are allowable based on their dependence of independent claim 18.

Claim 20 recites an apparatus with elements as defined in the specification (pages 3-16) including nodes arranged to perform at least one operation; a divider configured to divide one or more signals or signal components according to one or more predetermined division criteria into signal classes; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a centralized loop such that at least two subtrees are connected to the loop, wherein at least one

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first subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

The prior art teaches an apparatus comprising a divider for dividing one or more signals or signal components according to one or more predetermined division criteria into signal classes.

However, applicant's independent claim 18 comprises an apparatus with a particular structure, as recited above, which includes nodes arranged to perform at least one operation; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a centralized loop such that at least two subtrees are connected to the loop, wherein at least one first subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

This is neither taught nor suggested by the prior art.

Claims 51-64 are allowable based on their dependence of independent claim 20.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

III. Claim 35 recites a “computer program embodied on a computer readable storage medium, the computer storage readable medium storing code comprising computer executable instructions comprising...” in lines 1-3. Claim 35 is rejected under 35 U.S.C. 101 because the

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claimed "computer readable storage medium" is directed to non-statutory subject matter. The claimed computer readable storage medium is not defined in the specification and is therefore being interpreted to include a transitory signal. A transitory signal is not considered to be statutory subject matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

IV. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites the limitation "the computer storage readable medium" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Response to Arguments

V. Applicant's argument filed 10/22/2009 regarding the 35 U.S.C. 101 rejection of claim 35 has been fully considered but is not persuasive. See above 35 U.S.C. 101 rejection of claim 35.

Conclusion

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VI. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON J. MILLER whose telephone number is (571)272-7869. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

/Brandon J Miller/
Examiner, Art Unit 2617

January 25, 2010